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**REMARKS**

Applicants respectfully request entry of this Amendment and reconsideration of this application, as amended.

Claims 1-41 are currently pending in this application. Claims 21-27 and 32-35 have been withdrawn from consideration but in some instances (Claims 24-27 and 32-35) have been amended herein in anticipation of rejoinder. Claims 9, 28, 30, 31, 38 and the Abstract have been amended. New Claim 41 is added. Applicants note with appreciation the withdrawal of the rejection under 35 U.S.C. §102 based on Buchwald alone.

**Restriction Requirement Pursuant to 35 U.S.C. §121**

Claims 21-27 and 32-35 had been previously withdrawn pursuant to the Restriction Requirement set forth in the November 29, 2005 Office Action. However, applicants believe elected claims 1 to 20 to now be allowable and therefore requests rejoinder of 21-27 and 32-35 with such allowable elected claims 1-20 under MPEP § 821.04. The non-elected claims 21-27 and 32-35, as amended herein, would now all depend from an allowable base claim or contain all limitations in an allowable base claim as required under MPEP § 821.04. It is submitted therefore that rejoinder of non-elected claims 21-27 and 32-35 with the other claims being examined in this application would be proper.

**Rejections Under 35 U.S.C. § 112, second paragraph**

Claims 9, 19, and 20 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as his invention. Reconsideration is respectfully requested.

Claim 9 has been amended according to the Examiner's suggestion to change "hydrocarbyl-substituted" to "substituted hydrocarbyl." Support for this amendment can

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be found on page 3 of the instant specification.

With respect to claims 19 and 20, claims 1 and 2 recite open ended comprising language, specifically “a catalyst precursor comprising” and “a hydrocarbyl bridge, Y, comprising.” Further, page 3 of the instant specification expressly states “[t]he term “hydrocarbyl radical” is sometimes used interchangeably with “hydrocarbyl” throughout this document.” There is no limitation in claims 1 and 2 that the Y backbone be hydrocarbyl only. Therefore, there is no contradiction between claims 1 and 2 and the term “Y” with claims 19 and 20 and the terms “A” and “E”.

In view of the above, withdrawal of the rejections under 35 U.S.C. §112, second paragraph is requested.

#### **Objections to Abstract and Claims**

Claims 13, 28, 30, and 38 have been objected because of informalities. Claim 13 has been objected to for the last two lines “methoxy, ethoxy, propoxy, butoxy, dimethylamino, diethylamino, and methylethylamino” which are not metalloids, as recited in claim 9, from which it depends. Claim 9 (currently amended) recites “wherein X are independently hydride radicals; hydrocarbyl radicals; substituted hydrocarbyl radicals; or substituted hydrocarbyl organometalloid radicals. The definition of substituted hydrocarbyl radicals on page 3 of the instant specification clearly encompasses “methoxy, ethoxy, propoxy, butoxy, dimethylamino, diethylamino, and methylethylamino.” Applicant submits therefore that Claim 13 is properly dependent on Claim 9 and requests withdrawal of the rejection.

The Abstract and claims 9, 28, 30, 31 and 38 have been amended according to the Examiner’s suggestions.

In view of the above, withdrawal of the objections is respectfully requested.

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**Claim Rejections Under 35 U.S.C. §103**

Claims 1-20, 28-31, and 36-40 have been rejected under 35 U.S.C. §103 (a) as being unpatentable over U.S. Patent No. 6,307,087 to Buchwald et al. (hereinafter Buchwald) in view of U.S. Patent No. 6,710,007 to Brookhart et al. (hereinafter Brookhart) and JP-09-255713 to Yorisue (hereinafter Yorisue.) and U.S. Patent No. 6,225,487 to Guram (hereinafter Guram).

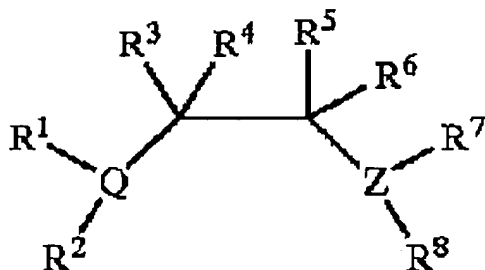
Buchwald is directed to a catalyst for Suzuki type coupling reactions using aryl halides. As Examiner admits, Buchwald is directed to using bases in combination with the catalysts to produce Suzuki-type coupling. Buchwald fails to disclose or suggest the activators recited by Applicants, e.g., alumoxane, aluminum alkyl, alkyl aluminum halide, alkylaluminum alkoxide, discrete ionic activators, or Lewis acid activators. Buchwald also fails to disclose utilizing the catalyst under proper conditions for polymerizing or oligomerizing alpha olefins.

Furthermore, Buchwald fails to disclose an "abstractable ligand" or "abstractable ligands," as recited in Applicants' claims. Abstractable ligands are defined on pages 5 and 6 of the present specification. Abstractable ligands, X, are ligands which are removable by an activator from the catalyst precursor in order to form a material which is catalytically active for olefin oligomerization. The activator is capable of extracting X. The resulting activated catalyst contains at least one M-H or M-C connection in which an olefin can insert. Clearly, it would not have been obvious to one of ordinary skill in the art to use abstractable ligands in Buchwald when admittedly there is no disclosure of the recited activator because there is no need. There is no disclosure of olefin oligomerization in Buchwald.

Brookhart is alleged to teach that organoaluminum activators are conventional in the art. Yorisue is alleged to be similar to the teaching of Brookhart.

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Brookhart fails to remedy the defects of Buchwald. Brookhart is directed to catalyst comprising ligands having a phosphino group and a second functional group such as an amide, ester or ketone (see Abstract.) Brookfield discloses a complex of a ligand of the formula



(see Summary of the Invention).

Brookhart is thus directed to a complex having a two-carbon, saturated bridge between Q (nitrogen or phosphorous) and Z (nitrogen or oxygen.) However, Applicants recite a hydrocarbyl bridge Y, comprising a backbone wherein the hydrocarbyl bridge connects between the terminal amine and the terminal phosphine and wherein the backbone comprises a chain that is four or more carbon atoms long. Accordingly, Brookhart fails to disclose Applicants' claimed catalyst precursor.

Likewise, Yorisue is directed to obtaining an olefin polymer having a branched structure with a narrow molecular weight distribution, or an olefin copolymer having a branched structure with a narrow molecular weight distribution and composition distribution in an excellent yield of polymer per unit weight of catalyst by using a compound of a specified transition metal element as the polymerization catalyst. The polymerization catalyst disclosed is a compound of a group 10 transition metal element, represented by the formula  $LMX_2$ . In the formula, L is a bidentate chelating ligand represented by the formula  $A1-Y-A2$  (wherein A1 and A2 are each a monodentate group coordinating with M through an element selected from group 15 elements; and Y is a hydrocarbon group, or a group which is selected from those containing groups 8, 14, 15 and 16 elements and binds A1 to A2 through covalent bonding); M is a transition metal element selected from group 10 elements; and X is H, or a monovalent ligand selected

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from groups bound to M through any one of groups 14 to 17 elements. Similar to Brookhart, Yorisue fails to disclose Applicants' claimed catalyst precursor.

There is absolutely no motivation to combine the teachings of Brookhart and Yorisue with Buchwald when Buchwald discloses both different ligands and different reactions. Again, it would not have been obvious to one of ordinary skill in the art to use an activator, such as MAO, in Buchwald as there no suggestion that one or more ligands even needs to be removed from the metal for activation to occur for olefin oligomerization.

Guram also fails to cure the deficiencies of the primary reference, Buchwald. Guram discloses a metal ligand complex wherein X is selected from the group consisting of atoms including P and N for oligomerization reactions. No disclosure of an activator can be found. It appears Guram is relied on only to show ligand metal complexes comprising P and N atoms are used for oligomerization. Guram discloses neither an abstractable ligand or an activator, as recited in Applicants' claims.

It is difficult, if not impossible, to imagine how one skilled in the art in possession of these references could conceive of the present invention absent hindsight reconstruction which was prohibited by the Supreme Court in *Diamond Rubber Co. v. Consolidated Rubber Tire Co.*, 220 U.S. 428 435-436 (1911).

Given the foregoing shortcomings of Buchwald, Brookhart, Yorisue, and Guram, it is respectfully submitted that Buchwald, Brookhart, Yorisue, and Guram fail to disclose or suggest the invention of claims 1-20, 28-31, and 36-40. Accordingly, continued rejection of applicants' claims as amended herein over this reference combination would be improper.

## **CONCLUSIONS**

Applicants have made an earnest effort to place their application in proper form and to establish the patentability of their claimed invention over the applied prior art.

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WHEREFORE, reconsideration of this application, entry of the amendments presented, withdrawal of the art rejections, rejoinder of the non-elected claims, and allowance of the amended claims herein are all respectfully requested.

Any comments or questions concerning the application can be directed to the undersigned at the telephone number given below.

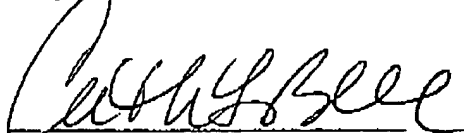
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Respectfully submitted,



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